

IN THE CLAIMS

1. (Original) A method of packaging a die comprising:
reflowing the solder to electrically connect the die to a substrate at a first temperature;
cooling the die and substrate to a second temperature;
placing a heated epoxy in contact with the die and the substrate;
holding the die and substrate at the second temperature for a time sufficient to allow the epoxy to cure; and
cooling the die, substrate and epoxy.
2. (Original) The method of claim 1 wherein placing heated epoxy in contact with the die and the substrate includes underfilling the space between the die and the substrate.
3. (Original) The method of claim 1 further comprising placing a lid over the die and the substrate.
4. (Original) The method of claim 1 wherein placing heated epoxy in contact with the die and the substrate includes overmolding the die.
5. (Original) The method of claim 1 wherein after reflow, the die and substrate remain above or at the second temperature until the epoxy cures.
6. (Original) The method of claim 1 wherein the second temperature is sufficiently lower than the first temperature to allow the reflowed solder to solidify.
7. (Original) The method of claim 1 further including selecting an epoxy that cures at a temperature near the temperature associated with reflow of the solder.

8. (Original) The method of claim 1 further comprising selecting a solder that does not leave a residue as a result of reflow.

9-23. (Cancelled)

24. (New) The method of claim 1 wherein cooling the die and substrate to a second temperature includes cooling the die and substrate from the first temperature to the second temperature without cooling to a temperature below the second temperature.

25. (New) The method of claim 1 wherein cooling the die, substrate and epoxy includes cooling the die, substrate and epoxy to a third temperature below the first temperature and the second.

26. (New) The method of claim 1 wherein the epoxy is heat curable at the second temperature.

27. (New) The method of claim 1 further comprising liquefying the epoxy.

28. (New) The method of claim 1 further comprising adding flux to the die and solder.

29. (New) The method of claim 1 wherein the flux is a low residue flux.

30. (New) The method of claim 1 wherein the flux produces a low amount of residue to prevent cleaning the die of excess flux residue

31. (New) The method of claim 2 wherein capillary action is used in underfilling the space between the die and the substrate.

32. (New) The method of claim 2 wherein underfilling the space between the die and the substrate includes pressurizing the epoxy and injecting the epoxy into the space between the die and the substrate.

33. (New) The method of claim 2 wherein underfilling the space between the die and the substrate includes underfilling a portion of the space between the die and the substrate.

34. (New) The method of claim 1 wherein cooling the die and substrate to a second temperature is done without adding heat to the die and substrate.

35. (New) The method of claim 1 further comprising adding heat to the die, substrate and epoxy to substantially maintain the second temperature.